IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
PATENT DIVISION

RESPONSE/AMENDMENT

Applicant: Dale Kempf, et al.	March 29, 2004
Appl. No.: 10/006,970	Attorney Docket No. RAR102.05
Filing Date: 12/04/2001	Group Art Unit 3744
Title: Water Control Fixture Having Thermostatically Controlled Bypass Valve	Examiner: Wayner, William E.

HONORABLE COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

RULE 132 DECLARATION

I Dale Kempf, do hereby declare that:

1. I am one of the inventors for the above-identified patent application and I reside at 22208 Frontier Road, Clovis, California 93611.

2. I am a registered professional engineer (mechanical engineer) in the State of California and I have 45 years of design and development experience, mostly in fluids related devices. I obtained my B.S. degree in General Engineering (machine design option) from University of Illinois in 1958. I recently retired from Grundfos Pumps Manufacturing Corporation, the assignee of the above-identified patent application, who is one of the world's largest manufacturers of pumps and related equipment. During my career, I have obtained seventeen United States patents, eight of which involve flow equipment technology.

3. During my long career, I have worked with literally hundreds of engineers and other technical professionals, attended many technical meetings and conferences and reviewed numerous industry and technology publications. As a result of my experience, I believe I have acquired quite an

appreciation of the invention process and what it takes to develop a new successful product from concept to the market.

4. One of my previous patents, which I was a co-inventor with two other Grundfos engineers, was an improved under-sink thermostatically controlled bypass valve (Patent Application No. 09/697,520 filed October 25, 2000, now U.S. Patent No. 6,536,469 issued March 25, 3003). This patent was an improvement over various prior art devices, including under-sink thermostatically controlled bypass valves which were disclosed in U.S. Patent No. 2,842,155 to Peters and U.S. Patent No. 5,323,803 to Blumenauer. Although the technology set forth in these patents has been known for many years (i.e., 1958 and 1994, respectively), neither patent presented devices which had significantly penetrated the market due to various limitations associated with the devices.

5. I have reviewed the Examiner's Office Action dated February 25, 2004 with regard to the present patent application (Patent Application No. 10/006,970) and the patents cited therein, particularly the Peters patent (U.S. Patent No. 2,842,155), U.S. Patent No. 5,606,987 to Weber and U.S. Patent No. 2,507,954 to Binnall, in sufficient detail to understand these materials. It is my understanding that the Examiner has rejected claims 1-3, 10, 11, 13, 15-19, 32, 33, 35 and 37 of the present patent application based on obviousness under 35 U.S.C. § 103(a) as being unpatentable over Peters in view of Weber and rejected claim 8 of the present patent application based on obviousness under 35 U.S.C. § 103(a) as being unpatentable over the art as applied to claim 1 in view of Binnall.

6. The present patent application is directed to a thermostatically controlled bypass valve that is disposed inside the physical structure of a water control valve so as to bypass cold or tepid water in the pressurized hot water line to the cold water line until the water in the hot water line is at the desired temperature. The goal of the present invention is to maintain hot water at the hot water faucet so as to avoid the waste of water associated with having to run water from the hot water line to the drain until the "hot" water reaches the desired temperature.

7. In contrast to the present invention, Peters describes a thermostatically controlled water bypass valve that is disposed between the hot and cold water lines that are external to the water control valve (i.e., below the sink). As set forth in the Peters patent, the bypass valve in Peters is a separate component that interconnects the hot and cold water lines before the hot water gets to the water control valves. This type of configuration, as with all external bypass valves, requires new connections in the water system in order to take advantage of the bypass operation. As indicated by the issue date of the Peters patent (July 8, 1958), the technology associated with thermostatically controlled water bypass valves external to the water control valve has been known in the industry for many years.

8. The Weber patent is a faucet that is configured to reduce the waste of hot water that is associated with leaking hot water valves which causes the hot water faucet to dribble hot water to the drain. As set forth in column 5, line 34 to column 6, line 45 and shown in Figure 2, Weber solves the problem of a leaking/dribbling hot water control valve by placing a pressure responsive check valve 188-1 (which may be more properly identified as a low cracking pressure relief valve) before the hot water control valve 186-1 and a small pipe 194 (also shown as 193) interconnecting the cold water line 102-2 before the cold water control valve 182-1 with the hot water line 120-2 between the check valve 188-1 and hot water control valve 186-1. As shown in Figure 4, the dribble bypass valve of Weber functions when both the cold water control valve 182-1 and hot water control valve 186-1 are turned off and hot water is leaking out of hot water control valve 186-1. Under this condition, cold water flows through line 193/194 such that the differential pressure across the pressure responsive check valve 184-2 is equalized, causing the check valve 184-2 to remain closed, thereby dribbling cold water out of hot water control valve 186-1 instead of hot water. As with any water supply system, hot water backed up at check valve 184-2 will become tepid or cold over time as it sits in the hot water line 120-2, which is the very problem the present invention solves.

9. Based on my experience in the industry and familiarity with the engineering process applied to that industry, I do not believe that those skilled in the art of this technology would have considered it obvious to combine the Weber patent with the Peters patent to obtain the present invention. Nothing in Peters or Weber suggests, compels or motivates a person to make such a combination, as these two patents are directed to solving different problems. Unless a person already had determined that it would be beneficial and useful to place a thermostatically controlled bypass valve inside a water control valve, there is no reason that a person would combine what is commonly referred to as an anti-dribble device (which is really only applicable to one input line as the fluid from the other input line is "sacrificed" for the benefit of the other input line) with an under-sink bypass valve to obtain a fixture with a control valve having a thermostatically controlled bypass valve inside. This is particularly the case where the device in Weber is not actually internal to the control valve, only to the faucet structure. Weber does state at column 5, lines 34-39 that his anti-dribble control device may be incorporated into the structure of a set of faucets. However, it is clear that what the inventor is referring to is a structure that includes the water control valves and that he is not suggesting that the device be incorporated into the water control valves themselves, as set forth in the present patent application. In fact, the bypass operation of Weber is actually external to the water control valves, much like it is in Peters (only above the sink instead of below the sink).

10. The flow operation of the device of the Weber patent is opposite that achieved by the present patent application. Instead of bypassing cold or tepid water from the hot water supply line as is done in the present patent application, Weber utilizes a pressure sensitive valve and a bypass line to bypass cold water to the hot water control valve so that when it is leaking or dribbling, as the case may be, it is leaking/dribbling cold water not the higher resource hot water. There is no thermal control involved in Weber, meaning that both lines could be cold fluid lines. In fact, in very high probability the water inside the hot water line would become cold or tepid if the hot water control valve is closed for any significant length of time (the problem discussed in the present patent application). When the hot water control valve is opened, it is very likely that the user will have to

let the "hot" water discharge into the drain for some period of time until true hot water arrives at the faucet (again, the very problem the present invention avoids). Eliminating the dribble of water from the hot water control valve, which Weber does, substantially reduces the likelihood that hot water would be instantly available at the hot water control valve. At least when the control valve is leaking, there is a greater chance that the leak will result in hot water at the hot water control valve when it is opened (although much hot water would be wasted).

11. From my review of the Peters and Weber patents, it is clear that Weber was not attempting to solve the problem addressed by Peters or the present patent application. From the Weber patent list of references, it appears that Weber was aware of the Peters patent. Clearly, Weber did not incorporate the thermostatically controlled bypass operations of the Peters patent into his invention. As set forth above, neither he nor any other inventor has been motivated to make such a combination.

12. With regard to claim 8 and the Binnall patent, I do not believe that it would have been obvious to combine the screen of Binnall with the Peters and Weber patents to arrive at the present invention as set forth in claim 8. The screen of Binnall, identified as numeral 25 in the drawings, is placed directly in the flow channel of the inlet so as to receive the direct flow of the incoming fluid. This configuration or placement of a screen is not practical or advisable for the present patent application, as any screen placed directly in the flow of fluid (as is Binnall) will become clogged with the detritus or other trash carried by the fluid, requiring it to be removed for cleaning or replacement. Because the bypass valve of the present patent application is disposed inside the water control valve, it is important that the screen be self-cleaning so as to avoid clogging of the screen openings. This effect was also described in the previous patent application (Patent Application No. 09/697,520, now U.S. Patent No. 6,536,469), of which the present patent is a continuation-in-part. I do not believe that it would be obvious in light of the subject prior art to incorporate a self-cleaning screen, meaning one that is configured to be swept clean by the fluid when the fluid valve is open, into a water control valve that has an internally disposed thermostatically controlled bypass valve.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patents issuing thereon.

I declare under penalty of perjury under the laws of the State of California that this declaration was executed on March 29, 2004, in Fresno, California.

Dale Kempf